

WHAT IS CLAIMED IS:

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1. A mobile communication system having a plurality of base stations and a radio controller configured to control each of the base stations, wherein,

10 each of the base stations comprises a transmission power notifying unit which notifies the radio controller of downlink transmission power to mobile stations;

the radio controller comprises:

15 a cell determination unit which determines one of a plurality of cells having good communications quality among the cells provided by each of the base stations;

20 a reference power ratio decision unit which decides a reference power ratio based on the ratio of the downlink transmission power to maximum transmission power of the base station providing the determined cell;

25 a reference power ratio notifying unit which notifies each of the base stations of the decided reference power ratio; and

30 each of the base stations further comprises a transmission power controller which controls the downlink transmission power so that the ratio of the base station downlink transmission power to its maximum transmission power to mobile stations approaches the reference power ratio.

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2. A radio controller for controlling a

plurality of base stations in a radio communication system, comprising:

5 a transmission power acquiring unit which acquires the downlink transmission powers from the base stations to mobile stations, which are provided by each of the base stations;

10 a cell determination unit which determines one of a plurality of cells having good communications quality among the cells provided by each of the base stations;

15 a reference power ratio decision unit which decides a reference power ratio based on the ratio of the downlink transmission power to the downlink maximum transmission power of the base station providing the determined cell; and

a reference power ratio notifying unit which notifies each of the base stations of the decided reference power ratio.

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3. The radio controller as claimed in claim 2, wherein the communications quality is an uplink communications quality from the mobile stations to the base stations.

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4. The radio controller as claimed in claim 3, further comprising an uplink communications quality measuring unit which measures the uplink communications qualities.

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5. The radio controller as claimed in claim 2, wherein the communications quality is a downlink communications quality to the mobile stations.

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6. The radio controller as claimed in claim 2, further comprising a maximum transmission power administrator which administrates the downlink maximum transmission power of each of the bases stations.

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7. A base station establishing a radio communication system together with other base stations and a radio controller which controls each of the base stations, comprising:

a transmission power notifying unit which notifies the radio controller of downlink transmission power to mobile stations;

a reference power ratio acquiring unit which acquires a reference power ratio provided by the radio controller, the reference power ratio being decided based on the ratio of the downlink transmission power to maximum transmission power of one of the base stations providing a cell having good communications quality; and

a transmission power controller which controls the downlink transmission power so that the ratio of the base station downlink transmission power to its maximum transmission power to mobile stations approaches the reference power ratio.

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8. The bases station as claimed in claim 7,  
5 further comprising:

a downlink communication quality acquiring unit  
which acquires downlink communications quality  
levels provided by the mobile stations; and

10 a downlink communication quality notifying unit  
which notifies the radio controller of the downlink  
communication quality levels.

15 9. A transmission power controlling method in  
a mobile communication system having a plurality of  
base stations and a radio controller configured to  
control each of the base stations, comprising the  
steps of:

20 notifying, by each of the base stations, the  
radio controller of downlink transmission power to  
mobile stations;

determining, by the radio controller, one of a  
plurality of cells having good communications  
25 quality among the cells provided by each of the base  
stations;

deciding, by the radio controller, a reference  
power ratio based on the ratio of the downlink  
transmission power to maximum transmission power of  
30 the base station providing the determined cell;

notifying, by the radio controller, each of the  
base stations of the decided reference power ratio;  
and

35 controlling, by each of the base stations, the  
downlink transmission power so that the ratio of the  
base station downlink transmission power to its  
maximum transmission power to mobile stations

approaches the reference power ratio.